

Novel Bits and Cutting Structures

Abstract

An insert for a drill bit which includes a diamond impregnated body, and a shearing portion disposed on said body is shown. In addition, a method for forming a drill bit that includes (a) forming a shearing portion on a diamond-impregnated insert body to form a cutting insert, (b) forming a bit body having a plurality of sockets sized to receive a plurality of the cutting inserts, and (c) mounting the plurality of cutting inserts in the bit body and affixing the plurality of cutting inserts to the bit body; wherein steps (a)-(c) are carried out such that a total exposure of the diamond-impregnated insert to temperatures above 1000° F is greater than a total exposure of the shearing portion to temperatures above 1000° F.

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